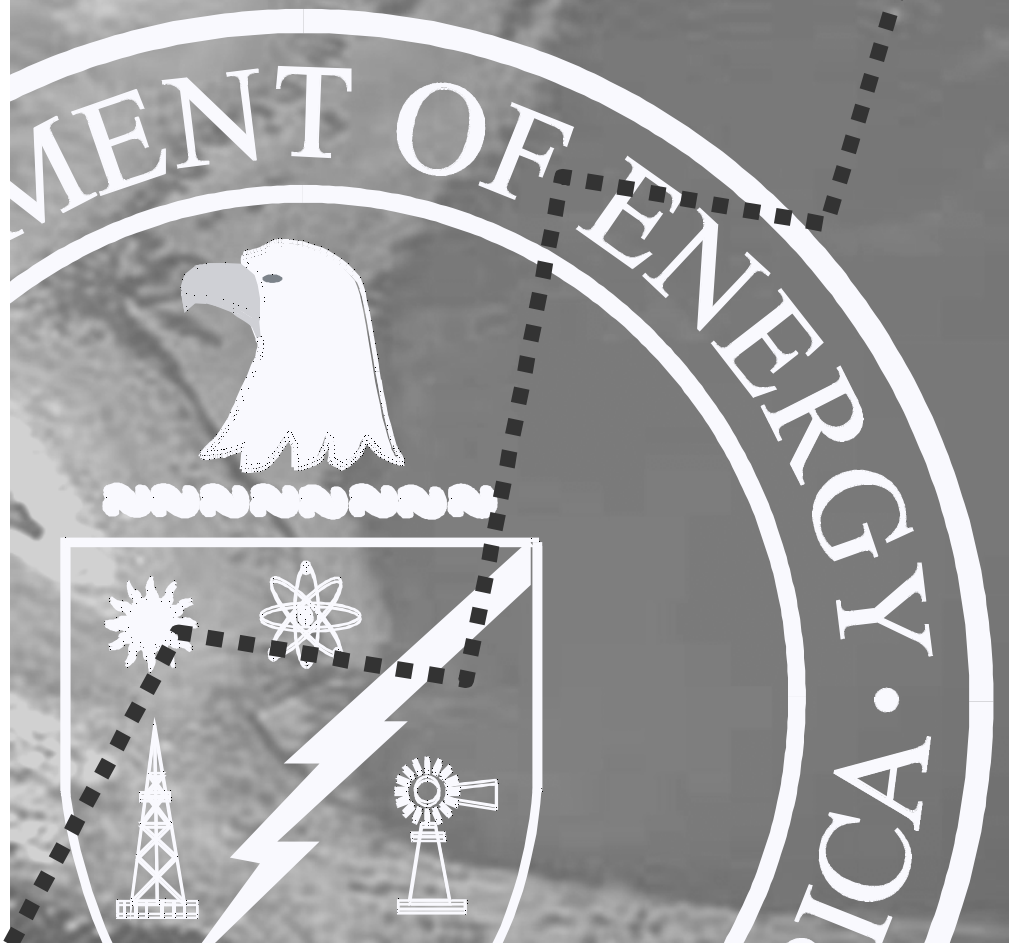


U.S. Department of Energy

Office of Management, Budget and Evaluation

**Contracting and
Procurement**



Initiated by: Office of Engineering and Construction Management

CONTRACTING AND PROCUREMENT

Project contracting and procurement management includes the processes required to acquire goods and services from outside the performing organization. For the purposes of this discussion, it does not include the acquisition of capital assets. These processes include:

- Procurement planning: what to procure and when.
- Solicitation planning: product requirements and identifying potential sources.
- Solicitation: obtaining quotations, bids, offers, or proposals, as appropriate.
- Source selection: awarding the bid.
- Contract administration: the relationship with the seller.
- Contract closeout: completion and settlement of the contract, including resolution of any open items.

These processes interact not only with each other, but also with processes in other knowledge areas. Each process may involve effort from one or more individuals or groups of individuals based on the needs of the project. Process interactions are an integral part of the contracting and procurement process.

Project procurement management is discussed from the perspective of the buyer in the buyer-seller relationship.

The *seller* will typically manage their work as a project. In such cases:

- The *buyer* becomes the customer and is a key stakeholder for the seller.
- The *seller's* project management team is concerned with all the processes of project management.
- The terms and conditions of the contract become a key input to many of the seller's processes. The contract may contain the input (e.g., major deliverables, key milestones, cost objectives) or it may limit the project team's options (e.g., buyer approval of staffing decisions is often required on design projects).

1.0 PROCUREMENT PLANNING

Procurement planning is the process of identifying which project needs can be best met by procuring products or services outside the project organization. It includes consideration of whether to procure, how to procure, what to procure, how much to procure, and when to procure. Procurement planning also includes consideration of potential subcontracts,

particularly if the buyer wishes to exercise some degree of influence or control over subcontracting decisions. The project management team should seek support from specialists in the disciplines of contracting and procurement when needed.

When the project does not obtain products and services from outside the organization, the processes from solicitation planning through contract closeout would normally not be performed. This is most often associated with research and development projects, software projects, and with many smaller, in-house projects, when the cost of finding and managing an external resource may exceed the potential savings.

1.1 Inputs to Procurement Planning

- *Scope statement.* The scope statement describes current project boundaries and provides important information about project needs and strategies that must be considered during procurement planning.
- *Product description.* The description of the product provides important information concerning any technical issues or concerns that need to be considered during procurement planning.
- *Procurement resources.* An estimate of the resources needed to support the project's procurement activities.
- *Market conditions.* The procurement planning process considers what products and services are available in the marketplace, and the available sources of information.
- *Constraints.* Constraints are factors that limit the buyer's options. One of the most common constraints for DOE projects is availability and timing of funds.

1.2 Tools and Techniques for Procurement Planning

Make-or-buy analysis. This technique can be used to determine whether a particular product can be produced cost-effectively by the performing organization, or should be procured.

The make-buy process may compare the cost of construction forces on-site (when available), implementing a project or portions of a project versus buying the services with fix-priced subcontracts. The guiding principles to a make-or-buy analysis process include:

- The process is auditable to ensure financial analysis guidelines are consistent.
- The process yields qualified sources having the lowest evaluated cost.
- The process is unbiased, i.e., estimates of “make” cost and “buy” cost are prepared by independent organizations.
- The process is nonexclusionary. Activities should not be performed in-house solely because of qualitative criteria.

- The PD/PM should initiate the make-or-buy analysis during the conceptual stage prior to CD-2.
- Expert Judgment. Expert judgment is often required to assess the inputs to this process.
- Contract Type Selection. Different types of contracts may be more or less appropriate for specific types of procurements. Contracts generally fall into one of three broad categories:
 - *Fixed Price or Lump Sum Contracts*. This category of contract involves a fixed total price for a well-defined product.
 - *Cost Reimbursable Contracts*. This category of contract involves payment (reimbursement) to the seller for actual costs. Cost reimbursable contracts often include incentives for meeting or exceeding selected project objectives, such as schedule targets or total cost.
 - *Unit Price Contracts*. The seller is paid a preset amount per unit of service, and the total value of the contract is a function of the quantities needed to complete the work.

1.3 Outputs from Contracting and Procurement Planning

- *Contracting and Procurement Plan*. The contracting and procurement management plan (an element of the project execution plan) shall describe how the procurement processes (from solicitation planning through contract closeout) will be managed. For example:
 - What type of contracts will be used?
 - Will independent Government estimates be needed as evaluation criteria?
 - Will standardized procurement documents be needed, and how will multiple providers be managed?
 - How will procurement be coordinated with other project aspects, such as scheduling and performance reporting?

The procurement plan should include a listing of contracts/procurements required, including a listing of key dates (e.g., date of issuance of approved specification, procurement start, receipt of approved requisition package by Procurement, contract award date, product delivery date, intermediate milestones, etc.).

- *Statement(s) of Work*. The statement or scope of work describes the procurement in sufficient detail to allow prospective sellers to determine if they are capable of providing the item. “Sufficient detail” may vary based on the nature of the item, the needs of the buyer, or the expected contract form.

The statement of work should be as clear, complete and concise as possible. The scope of work should include a description of any collateral contract services required, such as

performance reporting, spare parts or post-project operational support. In some applications, there are specific content and format requirements for a scope of work.

A recommended practice is to require the successful bidder to prepare a document that describes their understanding of the scope of work. This document must be submitted prior to initiation of work and then reviewed with the buyer to assure a complete understanding of the work to be performed and the product to be provided.

1.3.1 Contracting Methods

In determining the type of contract to be awarded, the following should be considered:

- The dollar value of the procurement, existing contractual vehicles, the extent of competition available, socioeconomic goals, necessary reviews and approvals, contract administration requirements, etc.
- Procurement practices and considerations prescribed in the Federal Acquisition Regulation (FAR) that must be considered during the procurement process. Such considerations include Improper Business Practices, Administrative Matters, etc.

When a project includes these items in its contracting considerations and evaluations, a decision can be reached that is logical, definable, and more likely to be successful.

2.0 CONTRACTING SKILLS

The quality of contracting actions depends largely on the professional skills of the contracting/procurement workforce available to support the project. Improved contracting/procurement skills will help ensure DOE interests are effectively represented within a challenging and changing legislative and regulatory environment.

Where possible, personnel who have received competency-based education for Federal contracting and purchasing should be sought. Competency-based education refers to programs that provide an opportunity for the trainee to develop and demonstrate an appropriate level of skill at performing a duty.

Contracting/procurement training is required under Section 16 of the Office of Federal Procurement Policy (OFPP) Act (41 U.S.C.414(4)) which:

- Requires personnel in the contracting occupational series to complete course work and related on-the-job training necessary to attain an appropriate level of skill, given the unique missions, policies, and workload of the agency. Alternative means may be used for these individuals to demonstrate their competence to perform required duties (e.g., through practicums, equivalency examinations, or managerial reviews of an individual's current level of skill in each duty)

- Requires personnel appointed under Section 1.6 of the FAR as contracting officers with authority to award or administer contracts above the small purchase threshold to complete course work and related on-the-job training necessary to attain an appropriate level of skill (given the unique missions, policies, and workload of the agency), or otherwise demonstrate their competency to perform those duties through alternative means
- Requires personnel in the purchasing occupational series performing purchasing duties, and individuals with contracting authority at or under the small purchase threshold, or with authority to place delivery orders at any dollar level, to complete training in duties related to making small purchases under FAR Part 13 and placing delivery orders;
- Provides for a system for certifying and reporting the completion of all required courses and on-the-job training
- Encourages self-development activities of contracting personnel to stay current with the acquisition knowledge base for professional growth throughout their careers
- Directs the Senior Procurement Executive to designate a procurement career manager with authority for agency-wide policy and oversight responsibility for the procurement career management program. This includes authority and responsibility for working in cooperation with other agencies through the Federal Acquisition Institute (FAI) to make the most effective and efficient use of existing instructional materiel or facilities and minimize duplication of effort in developing and delivering training and education.

Where possible, projects should strive to obtain contracting/procurement support from personnel who are trained and experienced.

3.0 SOLICITATION PLANNING

Solicitation planning involves preparing the documents needed to support solicitation of bids, quotes, or proposals.

3.1 Inputs to Solicitation Planning

- Contracting and procurement management plan.
- Statement(s) of work.
- Project schedule: Solicitation planning should be closely coordinated with the project schedule.

3.2 Tools and Techniques for Solicitation Planning

- Standard Forms: Standard forms may include contracts, descriptions of procurement items, or standardized versions of all or part of the needed bid documents.
- Expert Judgement: Expert judgment should be sought and used as needed.

3.3 Outputs From Solicitation Planning

- *Contracting and Procurement Documents.* Contracting and Procurement documents are used to solicit proposals from prospective sellers. Common names for different types of procurement documents include Invitation for Bid (IFB), Request for Proposal (RFP), Request for Quotation (RFQ), Invitation for Negotiation, and Contractor Initial Response.

Contracting and procurement documents should be structured to facilitate accurate and complete responses from prospective sellers. They should always include the relevant statement of work, a description of the desired form of the response, and any required contractual provisions (e.g., a copy of a model contract, nondisclosure provisions). Some or all of the content and structure of contracting and procurement documents may be defined by regulation. Procurement documents should be rigorous enough to ensure consistent, comparable responses, but flexible enough to allow consideration of seller suggestions for better ways to satisfy requirements.

- *Evaluation Criteria.* Evaluation criteria are used to rate or score proposals. They may be objective or subjective, and are often included as part of the procurement documents.

Evaluation criteria may be limited to purchase price if the contract/procurement item is known to be readily available from a number of acceptable sources. When this is not the case, other criteria are identified and documented to support an integrated assessment. For example:

- Understanding of need—as demonstrated by the seller’s proposal.
- Overall or lifecycle cost—will the selected seller produce the lowest total lifecycle cost (purchase cost plus operating cost)?
- Technical capability—does the seller have, or can the seller be reasonably expected to acquire, the technical skills and knowledge needed?
- Management approach—does the seller have, or can the seller be reasonably expected to develop, management processes and procedures to ensure a successful project?
- Financial capacity—does the seller have, or can the seller reasonably be expected to obtain, needed financial resources?
- Past performance—does the seller have a past history of performance/nonperformance and will the seller provide “best value” for the project?

4.0 SOLICITATION

Solicitation involves obtaining information (bids, proposals) from prospective sellers on how project needs can best be met. Most of the effort in this process is expended by the prospective sellers, normally at no cost to the project.

4.1 Inputs to Solicitation

- Contracting and Procurement Documents
- Qualified Seller Lists (QSLs). Most organizations maintain lists or files with information on prospective sellers, known as qualified seller lists (QSLs). A QSL is a composite of performance and quality-related information on suppliers, obtained from various sources. If QSLs are not available, the project team should develop its own sources. General information is widely available through library directories, relevant local associations, trade catalogs, and similar sources. Detailed information may require site visits and contact with previous customers.

4.2 Tools and Techniques for Solicitation

- *Bidder Conferences*. Bidder conferences are meetings with prospective sellers prior to preparing a proposal. They are used to ensure that all prospective sellers have a clear, common understanding of the procurement. Responses to questions asked during the conference may be incorporated into the procurement documents as amendments.
- *Advertising*. Existing lists of potential sellers can often be expanded by placing advertisements in general circulation publications, such as newspapers, or in specialty publications, such as professional journals. DOE requires public advertising of subcontracts on a Government contract.

4.3 Outputs from Solicitation

- *Proposals*. Proposals are seller-prepared documents that describe the seller's ability and willingness to provide the requested product. They are prepared in accordance with the requirements of the relevant procurement documents.

5.0 SOURCE SELECTION

Source selection involves the receipt of bids or proposals and the application of the evaluation criteria to select a provider. This process is seldom straightforward.

- Price may be the primary determinant for an off-the-shelf item, but the lowest proposed price may not be the lowest *cost* if the seller cannot deliver the product in a timely manner.
- Proposals are often separated into technical (approach) and commercial (price) sections, with each evaluated separately.
- Multiple sources may be required for critical products. In this case, past performance should be considered.
- Rank and order proposals to establish a negotiating sequence.

On major procurement items, this process may be iterated. A short list of qualified sellers will be prepared based on a preliminary proposal, and then a more detailed evaluation will be conducted based on a more detailed and comprehensive proposal.

5.1 Inputs to Source Selection

- Proposals
- Evaluation Criteria
- Organizational Policies: Any and all of the organizations involved in the project may have formal or informal policies that can affect proposal evaluation.

5.2 Tools and Techniques for Source Selection

Contract Negotiation. Contract negotiation involves clarification and mutual agreement on the structure and requirements of the contract prior to its signing. When possible, final contract language should reflect all agreements reached. Subjects covered generally include, but are not limited to, responsibilities and authorities, applicable terms and conditions, technical and business management approaches, contract financing, and price.

This process should obtain goods and services of the required quality, at the lowest possible cost, in accordance with the specified schedule and consistent with the contract terms and conditions. Planning and preparation are the primary keys to a successful negotiation.

The following guidelines should lead to successful negotiation:

- Develop a negotiation plan. Preparing and planning goals, tactics, and strategy are most important.
- Choose a negotiation team and include only required disciplines.
- Agree in advance on realistic cost/commercial/technical objectives as well as a negotiation plan.
- Be informed regarding the suppliers/contractors and their representatives.
- Negotiate in DOE or requestor facilities to increase “control” over the process.
- Negotiate only with supplier/contractor representatives authorized to make commitments or concessions.
- Let the lead negotiator control the negotiation. Their duty is to control any sudden changes, surprises, breakdowns in bargaining and other nondirectional situations.
- Weighting system. A weighting system is a method for quantifying qualitative data to minimize the effect of personal prejudice on source selection. Most systems involve: (1) assigning a numerical weight to each of the evaluation criteria, (2) rating the prospective

sellers on each criterion, (3) multiplying the weight by the rating, and (4) totaling the resultant products to compute an overall score.

- **Screening System.** A screening system involves establishing minimum performance requirements for one or more of the evaluation criteria.
- **Independent Estimates.** When needed, the project prepares/provides independent or Government estimates as a check on proposed pricing. Significant differences from these estimates may indicate that the Scope of Work was not adequate, that the prospective seller either misunderstood or failed to respond fully to the Scope of Work, or that market conditions have changed.

5.3 Outputs from Source Selection

Contract. A contract is a mutually binding agreement that obligates a seller to provide specified products and obligates a buyer to pay for those products. A contract is a legal relationship subject to remedy in the courts.

Although all project documents are subject to some form of review and approval, the legally binding nature of a contract usually means that it is subjected to a more extensive approval process. In all cases, a primary focus of the review and approval process should be to ensure that the contract language describes a product or service that satisfies the identified need. In the case of major projects undertaken by public agencies, the review process may even include public review of the agreement.

6.0 CONTRACT ADMINISTRATION

Contract administration is the process of ensuring that the seller's performance meets contractual requirements. On larger projects with multiple product and service providers, a key aspect of contract administration is managing the interfaces among the various providers. The legal nature of the contractual relationship makes it imperative that the project team be acutely aware of the legal implications of actions taken when administering the contract.

Several important processes that should be implemented on contracts, to assist both the buyer and the seller in improving performance and avoiding serious misunderstandings, include:

- Project work release systems to authorize the contractor's work at the appropriate time.
- Performance reporting to monitor contractor cost, schedule, and technical performance.
- Quality control to inspect and verify adequacy of the contractor's product.
- Change control to ensure that changes are properly approved and that all individuals with a need-to-know are aware of such changes.

Once a contract is awarded, a Notice to Proceed is issued. The Notice to Proceed is a formal notification to the contractor that work may begin. However, mobilization does not occur until after initial submittal requirements are met.

Submittal requirements for contracts may be found in the procurement specification or scope of work, and in the special conditions/general provisions of the procurement package. The procurement package should also define the submittal schedule. Submittals may require review and approval prior to the start of construction or fabrication. The timing of these submittals is important because of their potential impact on the schedule.

Preparing submittals involves the following activities:

- A submittal identification and tracking system should be established.
- The submittal review process should be clearly defined and implemented.
- A submittal log should be used to establish the system/component review matrix, description of item, date received, date transmitted to review organization, date comments returned, comment resolution, and date of final approval.
- Submittals must accurately represent the equipment specified, delivered and installed at the construction site.
- Each organization should provide a timely turnaround of submittals. An agreement on a standard turnaround time should be obtained.
- A single point of contact for processing submittals should be established to ensure timely receipt, review and approvals. This applies to both the project and reviewing personnel/organizations.
- Because contract administration also has a financial management component, payment terms should be defined within the contract and should involve a specific linkage between progress and compensation. Payment should include sufficient holdback to assure agreed upon contract completion.

Construction contracts should require the subcontractor to have an approved schedule prior to starting construction activities. Supplemental schedules may be required for the project duration, i.e., thirty days or four weeks rolling. These schedules should identify, at minimum, the milestones and milestone completion dates defined in the subcontract agreement. Examples of milestone dates are construction start, mechanical complete (system operable), and physical complete (all punch list items complete). Preparing schedules involves the following activities:

- The overall project schedule should include the dollar values associated with each activity. These values should sum to the total amount of the subcontract.
- Supplemental schedules should be required that identify and include milestone dates specified in contract documentation.

- The contractor's schedule should provide a Work Breakdown Structure (WBS) bar chart and an "S" curve resource-loaded schedule. This schedule should highlight the contractor's critical path.
- The contractor's baseline contract schedule should always be maintained. Any negotiated baseline schedule changes should be incorporated into the baseline schedule in a timely manner.

When work activities are completed and verified by the project, payment requests may be submitted and approved. Progress payments are based on the values loaded into the schedule minus retainage, which is typically ten percent of the requested amount.

The PD/PM and responsible project controls personnel should track invoices submitted versus payments to the contractor. The accounting system must capture the delta in actual and invoiced cost to accurately report contractor costs against performance.

Contract administration also has a financial management component. Payment terms shall be defined within the contract and should involve a specific linkage between progress and compensation.

6.1 Inputs to Contract Administration

- Contract
- Work Results. The seller's work results—which deliverables have been completed and which have not; to what extent quality standards are being met; what costs have been incurred or committed; etc.
- Change Requests. Change requests may include modifications to the terms of the contract or to the description of the product or service being provided.
- During the execution of a subcontract, the need to change the contract may occur. This may be the result of a request and agreement. Requests for changes should be submitted in writing. Once negotiated between the supplier and the seller's procurement representative, a change order will be issued. Upon issuance of the change order, the contract has been officially amended.

The key issue that all PDs/PMs face through the course of a project is managing change. PDs/PMs should remain aware of the following when managing change:

- Close management and control of changes help ensure project success.
- Changes to contracts/procurement documentation baselines are accomplished through approved documentation by the buyer's authorized representative (procurement).
- Change documentation should provide an adequate description of the changes' impacts to baseline contract cost and schedule, supported by an independent cost estimate.

- The contractor should be forced to submit claims in a timely manner.
- The PD/PM should be involved in the negotiation of changes.

Sellers should be monitored to ensure that all work complies with contract requirements. The project must keep the subcontractor on schedule, enforce safety procedures, approve payments, educate the subcontractor on site procedures, and perform many other tasks as part of the payment process.

6.2 Tools and Techniques for Contract Administration

- *Contract Change Control System.* A contract change control system defines the process by which the contract may be modified, and includes the paperwork, tracking systems, dispute resolution process and approval levels necessary for authorizing changes. The contract change control system should be integrated with the project change control system.
- *Performance Reporting.* Performance reporting provides information about how effectively the seller is achieving contractual objectives. Contract performance reporting should be integrated with overall project performance reporting.
- *Payment System.* Payments to the seller are usually handled by the accounts payable system of the purchaser's organization. The system includes appropriate reviews and approvals by the project management team.
- *Incentive.* Some contracts are amenable to incentives as a method of rewarding performance. If used, this technique should be carefully controlled and monitored to ensure the process adds value.

6.3 Outputs From Contract Administration

- *Correspondence.* Written documentation of certain aspects of buyer/seller communications, such as telephone conversations and meeting minutes.
- *Contract Changes.* Changes (approved and unapproved) are used as appropriate to upgrade the Project Execution Plan or other relevant project documents.
- *Payment Requests.* This assumes the project is using an external payment system. If the project has its own internal system, the output here would simply be "payments."
- *Historical Records.* Historical records of the subcontractor's performance, starting from award and proceeding through closeout, should be maintained. Also, a collection of factually documented observations and records for the project's protection is kept, in the event legal actions (claims) are brought against the project by the seller.

7.0 APPLYING EARNED VALUE MANAGEMENT

Part II provides procedures for Government personnel applying earned value management to Government contracts. It may also be useful to contractor personnel conducting self-

evaluation of Earned Value Management Systems (EVMS) processes. This section provides an Overview and describes Component relationships.

7.1 Overview

Earned value-based performance management has been in use in Government contracting since the 1960s, based on Department of Defense Cost/Schedule Control Systems Criteria. Independent studies in recent years have confirmed the validity of earned value as a project management tool, but indicated a need for re-engineering of implementation practices.

A vision for this re-engineering was briefed by the Office of the Under Secretary of Defense, Acquisition & Technology in October 1993, stating, “If we can focus attention on the output product, earned value status, and get contractor and Government program managers to actually use earned value as a tool for communicating the cost implications of technical and schedule problems—actually integrating technical, schedule and cost—the management systems will become self regulating and self correcting. The quality of a management system is determined not by absence of system defects, but by the presence of management value.”

An industry standard (EVMS Guidelines) for integrated cost, schedule and technical performance management has been developed to meet the stated need. This standard’s 32 criteria have been determined to be equivalent to the previous 35 Department of Defense cost/schedule control systems criteria. The industry standard provides for self-evaluation and/or customer evaluation of EVMS compliance. The DOE has accepted this approach, and reserves the right to conduct Government reviews of contract management systems.

This EVMS process described in this Section is designed for a large Major System project having multiple contractors and subcontractors. Projects that do not have that amount of participation should tailor the information provided to meet project needs.

7.2 Component Relationships

There are many project organizations that depend on earned value information and it is important that the needs of each organization are acknowledged and recognized. These needs must be balanced to ensure that the wants of one do not encroach on the basic needs of another.

7.3 Roles and Responsibilities

OECM is responsible for ensuring effective implementation and coordination of earned value management within the DOE. OMBE is responsible for ensuring the integrity and effectiveness in applying processes related to earned value management. OMBE maintains information related to contractor system acceptance and review schedules (including IBRs) and provides for the conduct of EVMS review activities with components. OMBE maintains liaison functions with industry, as a DOE representative for issues related to earned value management.

OMBE is a focal point of contact for coordination and exchange of information on earned value management. The focal point is responsible for effective policy implementation within the DOE, including ensuring consistency.

The responsibility for implementing earned value management on a contract is assigned to the organization tasked with executing the procurement.

This organization is also responsible for review and accepting the contractors/subcontractors/vendors EVMS. The review body should document the following information:

- (a) Review director's name, organization, and phone number
- (b) Contractor name, division, location, and point of contact
- (c) Contract Number
- (d) Basis/Cause/Purpose/Scope of the Review
- (e) Estimated starting date and duration of the review.

7.4 Pre-Contract Activities

7.4.1 General Information

This section provides policy and general guidance for pre-contract activities associated with earned value management in preparing a solicitation, in conducting source selection activities, and preparing a contract. The PD must be involved in evaluating the management system and reporting requirements placed on the contract and be an active user of the information contained in the resulting reports. The PD tailors reporting requirements based on a realistic assessment of the management information needs for effective control.

7.4.2 Policy

The PD, in structuring contract requirements, ensures that only the minimum information required for effective management is requested. Management system requirements are defined in the contract statement of work and in the applicable solicitation/contract clauses.

Unless waived by the proper authority, EVMS is required on all DOE acquisitions having a TPC greater than \$20M. This includes highly sensitive classified programs and major construction programs, significant contracts executed for foreign governments and specialized organizations.

Application of the criteria to contracts and subcontracts below the mandatory level is optional. However, some methods/processes of obtaining performance data should be implemented on all contracts.

- *Exceptions.* Compliance with the criteria is not required on contracts or subcontracts that are firm-fixed-price (including firm-fixed-price with economic price adjustment

provisions), time and materials contracts, and contracts consisting mostly of level-of-effort work.

If there are situations involving significant contracts where the application of the criteria is not believed to be necessary, the procuring activity will forward a request for waiver, prior to releasing the solicitation, to the DOE CO (or designated representative) for approval.

- *EVM Support.* In structuring a procurement to include earned value management requirements, each activity and component should have an office with responsibility for ensuring the appropriate and proper application of these requirements. Advice and guidance of these individuals should be sought by those preparing the solicitation package.

7.4.3 Acquisition Plan

A key document in the pre-contract phase is the Acquisition Plan. The Acquisition Plan details the process whereby the required hardware, software and/or services will be procured. The procuring activity should explain in the management section of this document the requirements for cost, schedule and technical performance management. Refer to the FAR, subpart 7.1.

7.4.4 Preparation of the Solicitation

- *Basic Requirements.* When it is determined a contractor will be required to use an EVMS meeting the criteria, include the appropriate provision in the solicitation. In addition to this provision, the contract SOW should include the requirement for the contractor to use earned value management. The SOW/SOO should also reflect the requirement for the periodic (usually monthly) contractor reviews to include discussion of technical, cost and schedule problems in their earned value context. The preliminary or sample Work Breakdown Structure should be established and included, and the contract data requirements for performance reporting should be generated and placed in the Solicitation.
- *SOW Task Descriptions.* The statement of work should contain a requirement for the contractor to perform the contract technical effort using a criteria-compliant EVMS that correlates cost and schedule performance with technical progress. Progress and problems would be presented and discussed in periodic program management reviews. Technical issues should be covered in terms of performance goals, exit criteria, schedule progress and/or cost impact.
- *Work Breakdown Structure.* The development of the contract WBS is very important to the effectiveness of an earned value management system. A too-detailed or poorly-structured contract WBS can increase the cost of implementing and maintaining an Integrated Master Schedule on a project. The PD should exercise considerable care in its development. A preliminary WBS is made part of the solicitation. This preliminary WBS should be structured in accordance with guidelines established by the acquiring Government agency.
 - Reflect the manner in which the work will be accomplished on the contract

- Facilitate management, data collection, and reporting.
- *Cost and Schedule Reporting.* Excessive cost and schedule reporting requirements can be a source of increased contract costs. Careful consideration is given when preparing the contract data requirements list to ensure that it identifies the minimum data needs of the program and the appropriate data item descriptions. The data list provides contractor guidance for preparation and submitting of reports, including reporting frequency, distribution, and tailoring instructions.
 - The use of electronic data interchange is mandatory and the American National Standards Institute (ANSI) Accredited Standards Committee (ASC) X.12 standard applies. This requires data transmissions to be made in a specified format in order to standardize software interfaces throughout the industry. Requirements to submit a report by electronic means is included in the contract.
 - In establishing the cost and schedule reporting requirements, the PD/PM should limit the reporting to what can and will be effectively used. How the PD/PM is or will be organized to manage the effort should be considered and the reporting should be tailored to those needs.
 - The PD/PM should consider requiring early submission of Cost Performance Report (CPR) Formats 1-4 so that the data will not be delayed waiting for the narrative analysis (Format 5) to be prepared. When the contractor is required to provide narrative analysis as part of the monthly contractor reviews, the PD/PM should consider requesting only minimal written or no narrative analysis to be reported with the CPR.
- *Tailoring the Cost Performance Report.* Suggested areas for report tailoring include:
 - CPR Contract WBS Reporting levels (Format 1). The PD/PM should carefully evaluate the contract WBS reporting levels selected for routine reporting to ensure only the minimum necessary for effective management control is obtained. The reporting level specified is normally contract WBS level 3, except for high cost or high risk items. WBS elements being reported should be evaluated periodically and changed, as necessary, to ensure the CPR continues to satisfy the PD's/PM's needs. It is not necessary for reporting levels in different legs of the WBS to be the same. For example, reporting in the long-lead equipment leg of the WBS may be level 4, while reporting in the training leg may be at level 3. Management needs will determine the appropriate level.
 - CPR Organizational Reporting (Format 2). If the contractor's organization is structured around the same products as the contract WBS, eliminate Format 2, as this will provide the same information as Format 1. Otherwise, Format 2 of the CPR should reflect the contractor's choice relative to the internal structure (including Integrated Project Teams [IPTs]) established to manage the contract.

- CPR Format 3 & 4 Report Periods. The data item description document may require the contractor to complete CPR Formats 3 & 4, columns 10 through 14, by specified periods or periodic increments, as negotiated with the procuring activity. The following paragraph provides an example of how the report periods should be included:

Formats 3 and 4 should contain baseline and manpower forecasts for three-month periods for two periods (cols 10 and 11), 12 month periods for the next two subsequent periods (cols 12 and 13), and the remainder of the contract for the last period (col 14).

- CPR Format 5 requirements. CPR Format 5 contains the contractor's analysis of significant contract variances. There are several proven techniques for focusing this analysis on critical issues/areas. The following table contains several approaches a PD/PM may choose. The data requirements list should provide that the variance approach be mutually reassessed at least every six months and adjusted as necessary to ensure useful analysis information is provided.
 - The contractor provides analysis of a specified number of the most significant variances, current or potential, regardless of dollar value in a given period. The identification of the items to be analyzed and explained should be mutually agreed-upon and periodically modified, or based upon the contractor's assessment of major risk areas as identified through the Government/contractor management review process.
 - The project and contractor jointly determine contract WBS and organizational elements that constitute cost, schedule or technical risk on the contract. The contractor provides explanations of variances in these elements if they exceed pre-established thresholds. Identification of these areas should be periodically reviewed and modified through mutual agreement.
 - The contractor provides explanations of variances after Formats 1-4 of the CPR have been provided and those elements requiring analysis reporting are identified.
- Schedule Reporting. The data requirements list schedule submission should focus on the minimum requirements needed for schedule management. These schedules may contain an integrated network developed in conjunction with the contract WBS. Either a manually- or software-generated integrated schedule network can be acceptable, depending on the individual contractor's internal practices.

7.4.5 Source Selection Evaluation Activities

- *Proposal Submissions.* A flowchart for the solicitation process is shown at Figure 1. When required by the Solicitation, each offeror's proposal includes a description of the EVMS to be used. Normally, the offeror would be expected to propose use of an existing system, provided it meets the criteria. An offeror proposing to use an EVMS previously

accepted by the Government may satisfy the system description requirement by citing the Advance Agreement, Letter of Acceptance, or Certificate of Validation. Each offeror's proposal should include a listing of procuring activity points of contact for contracts where the proposed EVMS has been previously used. An offeror not having a previously accepted system submits a plan to obtain system acceptance. This may involve self-evaluation with appropriate PD/PM involvement, third party certification or PD/PM review.

- *System Descriptions.* If the offeror proposes a system that has not previously been accepted by the description of the offeror's EVMS in sufficient detail to show how it complies with the criteria.

Specifically, it should describe the EVMS and its application with respect to organization of the work, planning, budgeting, scheduling, work authorization, cost accumulation, measurement and reporting of cost and schedule performance, variance analysis and baseline control. Aspects such as manufacturing, material, and subcontract management should be included.

Although it is not required as part of the system description, the offeror may correlate evaluation guide items with applicable portions of the system description.

An offeror may elect to keep the system description general and rely on cross-referencing to internal procedures or policy manuals for a discussion of the details. In this case, the procedures and policy documents are to be referenced in, and considered a part of, the system description.

- *Evaluation.* Evaluation of the proposed EVMS is normally undertaken as part of the proposal evaluation process. This evaluation is basically an assessment to determine the probability of the system meeting the criteria. If an offeror has proposed using a previously accepted system, the evaluation may consist of a confirmation that:
 - The previous acceptance was of an appropriate type (Development/Production); and,
 - The system is currently in use and surveillance has not identified significant, uncorrected problems.

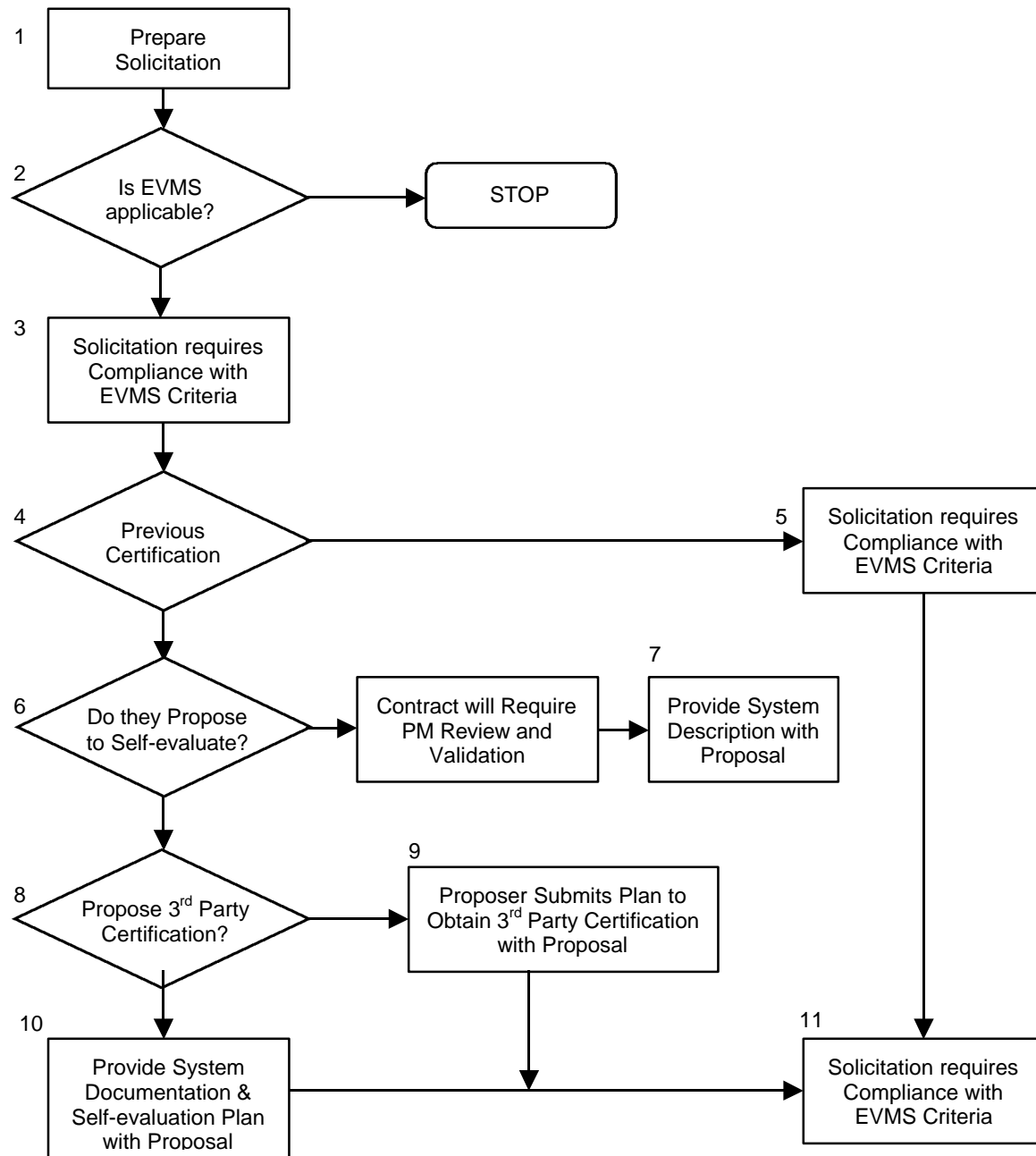


Figure 1. Solicitation Process

The review representative should be requested to provide insight regarding each offeror's EVMS capability, quality, and past performance.

- *Clarification.* An on-site examination of an offeror's proposed system is normally not required during proposal evaluation. When any aspect of the system is not clearly understood, however, clarification may be requested by the offeror. This may take the form

of written communications or an on-site visit. Any such action shall be coordinated with other relevant component authorities, including the Source Selection Board. Care shall be exercised during the entire review process to ensure that the offeror and the PD/PM have the same understanding of the system described in the proposal. If it is necessary to review plans and reports of other contracts, concurrence of that procuring activity must be obtained.

- *Proprietary Information.* Care must be exercised to avoid improper disclosure of information obtained from offerors, especially in competitive situations, in which the degree of compliance with the criteria is a factor in contract award.

7.4.6 Preparation of the Contract

The contract provisions shall require that the contractor's system comply with the criteria throughout performance of the contract. The SOW tasks and the data requirements list items from the solicitation also become part of the contract. The clauses cover the requirements of the criteria and other conditions as follows:

- The contractor shall use and demonstrate the EVMS which meets the criteria
- The contractor shall notify the PD/PM of changes affecting the accepted earned value management system description
- The PD/PM shall have access to pertinent records and data associated with the EVMS
- The criteria shall be applied to selected subcontractors as required by the contract.

7.5 The Surveillance Process

The PD/PM has the primary responsibility for surveillance of the contractor's EVMS. The contractor may choose to participate in this surveillance process and is strongly encouraged to do so. This surveillance team requires close coordination among members to ensure surveillance is performed in an effective manner that avoids duplication.

EVMS surveillance begins prior to contract award, continues through system compliance evaluation and acceptance (when required), and extends throughout the duration of the contract. Surveillance must ensure that the contractor's EVMS:

- Provides timely and reliable cost, schedule, and technical performance measurement information summarized directly from the contractor's internal management system.
- Complies with the criteria.
- Provides timely indications of actual or potential problems.
- Maintains baseline integrity.
- Provides information that depicts actual conditions and trends.

- Provides comprehensive variance analysis at the appropriate levels, including proposed corrective action in regard to cost, schedule, technical, and other problem areas.

For the life of the contract, surveillance should be based on recurring evaluation of internal management control practices and samples of internal and external reported data to ensure the validity of the contractor's performance data provided to the Government. The surveillance activity should focus on major system activities and problem identification to ensure the greatest return for resources expended. A flowchart of the surveillance activity is shown in Figure 2.

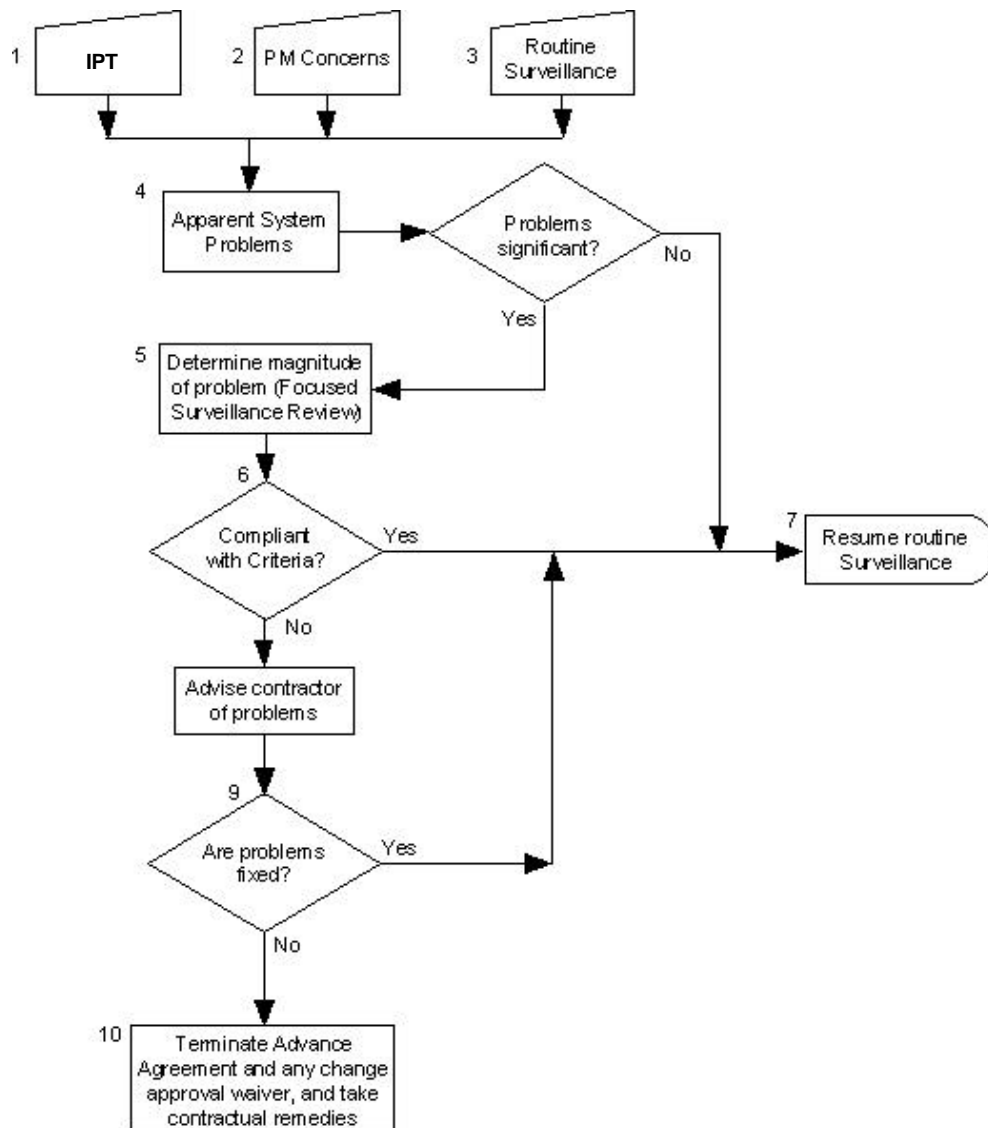


Figure 2. Surveillance Process

7.5.1 Surveillance Responsibilities

EVMS surveillance requires participation and full cooperation of the PD/PM and the contractor. Other organizations may have specific surveillance responsibilities as assigned by the PD/PM.

- The monitor who is assigned overall responsibility for surveillance of the contractor's EVMS. This includes evaluation of contractor proposed changes to the system. The Monitor should also be cognizant of the procuring activity EVMS support organization that can provide assistance in working surveillance issues.
- The IPT members who are assigned the responsibility for accomplishing surveillance in their respective functional or organizational area.
- The Contracting Officer (CO) who is designated as the agent of the Government responsible for ensuring that the contractor complies with the contract. The CO is a member of the IPT.
- The Contractor. Through an internal surveillance program, or by some other means, the contractor should ensure its EVMS continues to meet the criteria, is implemented, and used correctly on all applicable contracts. The CO should coordinate surveillance efforts with the PD and contractor. Joint surveillance between the PD and the contractor is encouraged and, if established, should be documented in a surveillance plan.

7.5.2 Surveillance of Subcontractors and Other Prime Contractor Locations

Subcontracts and other locations or divisions of the prime contractor selected for application of the criteria may require surveillance to be performed by another CO. Where appropriate, the request for support administration should be made by the CO familiar with the contract.

When a subcontractor is required to comply with the criteria, the prime contractor will be responsible for surveillance of the subcontractor. The prime CO function normally is limited to evaluating the effectiveness of the prime contractor's management of the subcontract. However, there may be occasions when the PD or a prime contractor will request, through the CO, that the DOE perform limited or complete earned value system surveillance.

Such support administration is not to be construed as a discharge of the prime contractor's contractual obligations and responsibilities in subcontract management. Such assistance should generally be provided only when:

- The prime contractor is unable to accomplish the required surveillance because it would jeopardize the subcontractor's competitive position, or proprietary data is involved
- There is a business relationship between the prime contractor and subcontractor not conducive to independence and objectivity, as in the case of a parent-subsidiary or when prime and subcontracting roles of the companies are frequently reversed

- The subcontractor is sole source and the subcontract costs represent a substantial part of the prime contractor costs.

7.6 Advance Agreements

The advance agreement between the DOE and a contractor specifies that the contractor will maintain and use the accepted EVMS as an integral management process on current as well as future contracts. The agreement also documents the DOE's intent to minimize system reviews. The CO and contractor should also establish a document to identify how joint surveillance findings will be documented and the process for resolving disagreements concerning EVMS compliance issues.

The advance agreement is executed following successful completion of a compliance evaluation, or DOE acceptance of a contractor's self-evaluation process, and remains in effect indefinitely. Once executed, the agreement should be referenced and incorporated into each contract requiring the application of the criteria. The agreement is signed by the cognizant CO and a contractor representative at the commensurate level. For example, if the acceptance is for an EVMS used throughout a corporation's division, the appropriate contractor representative may be the division manager.

PDs should be aware of the existence of advance agreements with their contractors in order to take maximum advantage of the agreements contained therein in establishing Memorandum of Understanding (MOU) requirements.

7.7 Memorandum of Understanding

The MOU is a negotiated agreement that identifies the key individuals, specific responsibilities, priorities, reporting requirements, and working relationships between the PD and the CO, or between COs where multiple prime contractors are involved. The MOU describes the activities necessary to achieve and maintain effective program surveillance.

7.8 Compliance After Acceptance

The contractor is contractually obligated to maintain the EVMS in accordance with the criteria. Continuing innovations and improvement of the contractor's system are encouraged. Such changes require prior Government approval unless the CO has provided a waiver. Waivers to systems change prior approval provision should normally be granted when contractors provide demonstrated commitment to the use of earned value management as an integral part of their business practices. Formal documentation of this commitment may, for example, be found in advance agreements, MOUs, Directives, or other company procedures, clearly indicating the contractor's commitment to effective earned value management. When the CO provides a waiver to the prior approval of system changes provision, contractors will notify the Government at least two weeks in advance of implementing changes. Waivers should normally be granted to apply to all contracts at a contractor's facility, including the EVMS clause. This

waiver should continue to apply, provided the CO determines the contractor retains its commitment to effective Earned Value Management business practices.

A flowchart of the system change process is provided at Figure 3. The PD promptly evaluates changes for continuing compliance with the criteria. This evaluation may be conducted with the support of the procuring activity. When a proposed change is obviously non-compliant, the contractor is promptly notified by the CO.

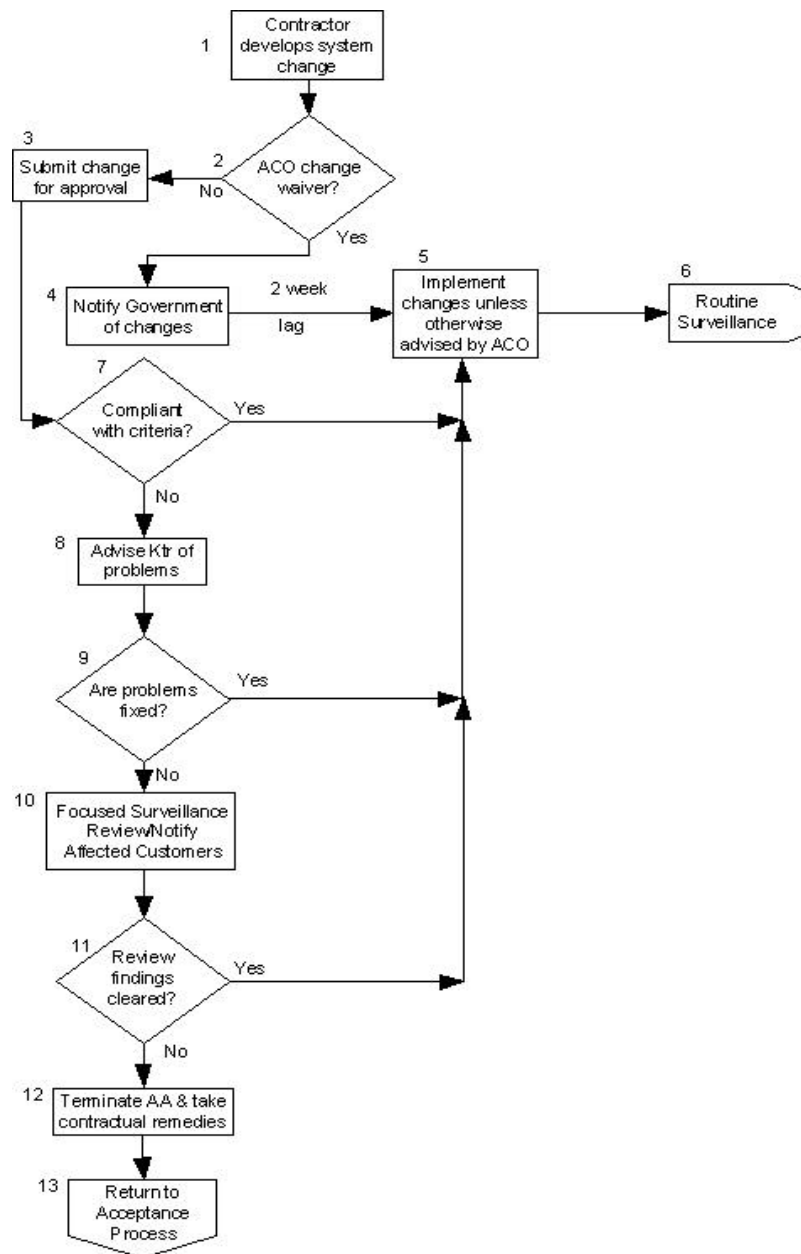


Figure 3. System Change Process

The PD/PM provides each affected Program Manager with an assessment of the effect of the change on their contracts. This will ensure that contractor system changes that result in modifications to reported information will not be made without involvement of the organizations utilizing the data.

The system description and procedures should adequately describe the elements of control and the techniques (e.g., earned value methods) used in satisfying the criteria. The software used implements these controls and techniques but may be modified or replaced as long as the processes are supported and not modified. This includes, for example, management subsystems' inputs, outputs, files, control account and work package formats, earned value techniques and interfaces among those subsystems. The name of the software may be mentioned in the system description when the intent is to clarify and describe the capabilities as mentioned above, and thereby reduce the amount of additional content needed in the systems description.

7.9 Training

In order to effectively utilize the information generated by the contractor's EVMS and reported in the external reports, the PD and contractor personnel should receive training in the analysis of earned value data. There are three general sources of training: formal training classes; contractor sponsored training; and, informal, on-the-job training.

- *Formal training.* Courses on the basics of earned value and analysis of data should be provided for all personnel associated with the program, and refresher training should be offered. This training is available from the member organizations of the Defense Acquisition University as well as other recognized educational institutions.
- *Contractor Sponsored Training.* The majority of contractors with approved EVMSs conduct training classes in the operation of the system. Where the contractor provides training in the EVMS, the PD, the CO and the contractor may seek to participate in these training opportunities.
- *In-house training.* Each acquisition component with an EVMS normally provides in-house training. Where this capability exists, all organizations involved in an acquisition should be invited to participate in this training. It may consist of specialized training, on-request, focused on an individual contract or, it may be generalized training addressing the concepts of earned value and the analysis of earned value information. When in-house training is conducted for an individual program office, every effort should be made to incorporate the specifics of the contractor's EVMS into the course.

7.10 Integrated Baseline Review

The baseline review is a joint assessment by the PD and the contractor of the contractor's performance measurement baseline. It is conducted within six months of a new contract award

or a major change to an existing contract. The responsibility for conducting the review lies with the PD and the IPT. Specific guidance for conducting the review is contained in Section 8.

7.11 EVMS Compliance Reviews

Following award of a contract, there may be occasions where evaluations of the contractor's EVMS may be necessary to ensure it is generating proper information for program management use. The focus and conduct of these reviews is described in Section 8. Program Managers, the CO, and the EVM support office should provide sufficient resources in support of these reviews to ensure their effective conclusion.

8.0 EVMS REVIEWS

8.1 General Information

This section defines the process for performing reviews, initial compliance evaluations of proposed earned value management systems, and reviews for cause of subsequent implementations of accepted systems. It provides guidance on the approaches to, preparations for and the performance of these reviews.

8.2 Review Process

8.2.1 Policy

For all contracts requiring compliance with the criteria, validity of the Performance Measurement Baseline (PMB) is substantiated through conducting a review. This review is conducted within six months of contract award. The intent of the review is to institutionalize a process that facilitates the involvement of the PD and the IPT in the management of the program, using performance measurement information.

8.2.2 Definition

A review is a formal review conducted by PD and IPT, jointly with their contractor counterparts, following contract award to verify the technical content of the performance measurement baseline and the accuracy of the related resource (budgets) and schedules. A review is also performed when work on a production option of a development contract begins or, at the discretion of the PD, when a major modification to an existing contract significantly changes the existing PMB. When major events occur within the life of a project and a significant shift in the content and/or time-phasing of the PMB occurs, the PD may conduct a review of those areas affected by the change with the associated resources and schedules. The intent is for the review to be a continuous part of the process of program management by both the Government and the contractor.

8.2.3 Objectives

The primary objectives of reviews are to:

- Ensure the technical content of work packages and/cost accounts is consistent with the contract scope of work, the contract WBS, and (if applicable), the contract WBS dictionary
- Ensure there is a logical sequence of effort planned, consistent with the contract schedule
- Assess the validity of allocated cost account and budgets, both in terms of total resources and time-phasing
- Conduct a technical assessment of the earned value methods that will be used to measure progress, to ensure that objective and meaningful performance data will be provided
- Establish a forum through which the PD and the IPT gain a sense of ownership of the cost/schedule management process. By understanding the internal earned value management system, PD and contractor technical counterparts can jointly conduct recurring reviews of PMB planning, status, and estimates at completion to ensure that baseline integrity is maintained throughout the contract life.

8.2.4 Responsibilities

- *Program Manager.* As the primary beneficiary of the review process, the PD is responsible for the timeliness and successful execution of the review. The PD will participate in a lead role, or designate an IPT member to lead, along with sufficient engineers and other team members and CO personnel to ensure a comprehensive evaluation of the PMB is performed. The process requires the immediate and continuing involvement and support of the PD and the IPT.
- *EVMS Support Organizations.* The EVMS support organization should provide assistance in training the IPT in conducting the review, as well as all aspects of earned value management and in providing qualified personnel to assist in conducting the review.
- *CO.* The CO is responsible to inform the Government program manager and the component focal point of either EVMS deficiencies or project implementation problems that would preclude the successful conduct of a review. Moreover, the CO will support and participate in the reviews as necessary.
- *The Contractor.* The PM and technical personnel form an integral part of the review team and process and should be invited to fully participate in each stage of the review.

8.2.5 Integrated Baseline Review Approach

- *Review Duration.* The review is to be conducted at the contractor's facility. The duration is determined by the PD. The duration, however, should be based on the size of the contract, number of control accounts to be reviewed, number of contractor managers involved, and other factors. These factors will also determine the size and makeup of the review team.

- *Selection and Composition of Team.* The review team will be composed of engineers and other technical personnel, and to a lesser degree, other IPT personnel, EVMS support personnel, and CO personnel (both technical and EVM). The team may include other functional specialists and contractor personnel who support the project and could make a contribution to the review process.
- *Training.* Adequate training for the technical staff is essential to ensure that performance measurement information is a useful management tool for the project. Support personnel, including the cognizant CO representatives and the contractor, may be invited to participate in the training program. The enhanced training program should include, but not be limited to: how to conduct the review; a conceptual understanding of the basics of earned value based performance measurement (i.e., how work is assigned, planned, budgeted, scheduled and statused); specifics of the contractor's EVMS; and a basic understanding of the recurring review and analysis of the baseline and performance data.
- *Review Workshop.* Prior to the review, the leadership of the review team should conduct a workshop for the review team. Areas such as the purpose, objectives, agenda, expectations of team members, techniques and approach for conducting baseline discussions, and expected outcome must all be clearly understood by the team. An invitation should be extended to the contractor for a representative to attend the workshop.
- *Preparation for the Review.* The PD, in close coordination with the contractor, should determine the contractor managers to be involved and specific control accounts to be reviewed. Consideration in the selection process should include discrete hardware and software areas, subcontract effort, scheduling logic, and high-risk areas, which include both cost and technical issues. The IPT should provide input to the selection process.
- *Conducting the Review.* The review process is a streamlined approach to assessing the PDB on new contracts. The assumptions are that the contractor is using an accepted EVMS internally for program management, and that there is a thorough and effective surveillance program ongoing at the facility. This review, therefore, is not as comprehensive as post-acceptance reviews for cause discussed later in this section. The review will consist of two basic activities. They are:
 - Discussions with a selected sample of contractor managers to review the contractor's baseline plan for contract execution. This includes work authorizations; schedules; control account work package and planning package budgets; and progress measurement methods. These baseline discussions are conducted primarily by the IPT with support by the CO and EVMS team members.
 - An exit briefing by the review team covering the team's findings. During this briefing, any PD's action items should be discussed. All open concerns should be identified along with the agreed upon corrective action plans that establish responsibility and a time-frame for corrective action.

Effort performed by external organizations poses a unique challenge for the review. The process necessitates an assessment of baseline planning at the control account/work package level which is accomplished, in part, by holding discussions with the responsible managers. Where there is a significant amount of subcontract or intra-company effort, separate joint Government/prime reviews should be conducted at the subcontractor and intra-company facilities. The review at the prime contractor's facility should therefore focus on an assessment of the responsible (prime) contractor manager's process for management of subcontract cost, schedule, and technical performance.

- *Review Results.* At the conclusion of the review, all concerns requiring resolution should be identified, and estimated dates for resolution established. EVMS issues are referred to the PD and the CO for resolution.
- *Report.* There is no formal report required at the conclusion of the review. The PD may establish a requirement for documentation of the review but the content and format of this report are at the PD's discretion. The PD is responsible for notifying the contractor of review results.

9.0 INITIAL COMPLIANCE EVALUATIONS

9.1 Policy

When the application of the Criteria is required, it is policy to ensure that:

- No changes to contractors' existing EVMSs are required, except those necessary to meet the intent of the criteria
- The contractor has properly implemented the EVMS on the contract under review and is using it as a mainstream project management tool
- The contractor is using the data from its own EVMS in reports to the project.

Compliance evaluations are provided in Figure 4.

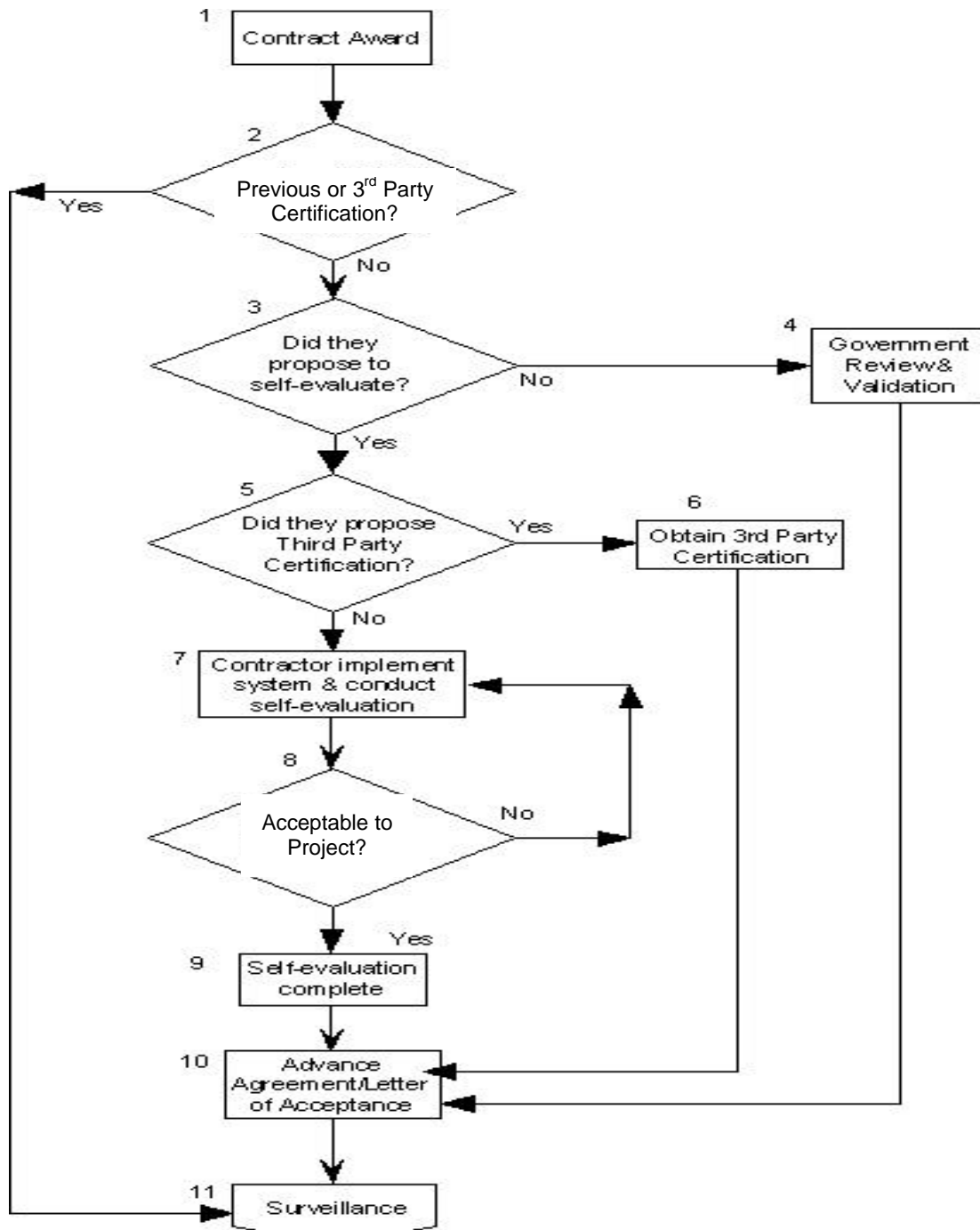


Figure 4. EVMS Post Contract Process

9.2 Definition

The compliance evaluation is a formal review conducted to assess the contractor's proposed EVMS relative to compliance with the Criteria. It focuses on those processes defined and used by the contractor to manage major acquisitions in an earned value environment.

9.3 Objectives

The primary objectives of the compliance evaluations are to:

- Evaluate management system capabilities against the Criteria
- Assess the description of the management system to determine if it adequately describes the management processes being reviewed
- Evaluate the application of the management system on the contract being reviewed.

9.4 Review Process Ownership

In the interest of fostering contractor ownership, the goal is to encourage contractors to responsibly conduct self-evaluation of their EVMSs in partnership with the project. The project reserves the right to supplement contractor self-evaluation where necessary. The factors affecting the degree of project involvement include:

- Contractor Senior Management commitment to establishing and maintaining a compliant EVMS.
- Contractor willingness to lead or participate
- Knowledge and capabilities of the proposed contractor team leaders and members.
- Adequacy of the contractor self-evaluation process, including opportunity for Government participation.

This process could focus on individual elements of the EVMS or the entire system. When the contractor has established an intent to perform a self-evaluation, the PD will be consulted by the contractor concerning the process to be used and the progress being made. The processes and procedures described in the following paragraphs are appropriate for use by both project and contractor teams.

9.5 Basis for Application

DFARS Clause 252.234-7001, Earned Value Management Systems, requires that the contractor be prepared to demonstrate that the contractor's EVMS meets the criteria.

9.6 Determination of Evaluation Focus

Since a contractor's EVMS used during development may differ significantly from that used during production, separate compliance evaluations may be required. Simultaneous reviews of

the systems used for development and production contracts may be performed, or a contractor may implement one system for both types of contracts. This eliminates the need for multiple reviews. The production system demonstrated to gain acceptance, however, should be of such an extent that its review demonstrates its applicability to production contracts that warrant the imposition of the criteria. In determining the category for review (development or production) to be accomplished, the following issues should be considered:

- If the manufacturing effort in the contract is not true repetitive manufacturing (e.g., model shop work), and there is no major difference from the management system used for the engineering effort and in the way the work is planned and controlled and cost data are collected, then the review can be based on the application of a development system.
- If the preponderance of discrete effort in the contract is identified as either engineering or manufacturing, then the identification of the review as development or production should be self-evident.
- If there is little or no manufacturing effort (e.g., contracts for long-lead items, engineering services, or production planning), the contractor can apply either an accepted development or an accepted production system, regardless of funding.
- The type of funding should be considered, but it should not override other considerations.

9.7 Responsibilities

The PD is responsible for selecting a review director to coordinate review activities. For project-conducted reviews, these activities would include: approval of type, scope, extent of the review; extent of contractor involvement; approval of team recommendations; and approval of the report. The review director approves the assignment of the team chief and team membership. The review director establishes the areas of review to be emphasized at the outset of the review. For contractor-conducted reviews, the review director is the point of contact between the contractor and the Government agencies affected by the implementation of the EVMS, and is responsible to the PD for ensuring the adequacy of the self-evaluation process.

9.8 Team Composition

Whether the review is primarily conducted by the contractor or the project, team members should be experienced and understand the criteria. Knowledge of both the project and the contract is desirable. Formal training is recommended. Required skills may also be obtained by training and experience, and implementing, maintaining and operating company earned value management systems. The review director and team members are formally assigned to the team. It is essential that the team include members from the IPT. A partnering approach should be sought, with both contractor and Government members contributing.

The review director will make all necessary arrangements to ensure availability of team members for the time required for preliminary indoctrination, training, and each review for

which a team member is needed. Members will be administratively responsible to the review director during the review period.

9.9 Prior Acceptance

Contractors whose EVMS was accepted for application to another contract of the same type (for example, development or production) at the same facility will not be required to undergo a compliance evaluation on a new contract.

9.10 Progress Assistance Visit

Where the review is conducted by the project, as soon as possible after contract award, preferably within 30 days, representatives of the review team should visit the contractor's plant and review the contractor's plans for implementing a criteria-compliant EVMS. The visit includes an initial review of the system description. Areas of noncompliance and potential problems are identified. This visit provides an early dialogue between the review team and the contractor on the compliance evaluation process. During this preliminary visit, the contractor usually makes presentations on the systems' design and operation and explains applicable reports. The team examines selected documents and procedures proposed by the contractor, and a schedule will be developed for future visits, the review, and the compliance evaluation.

Representatives of the review team hold the progress visit with the contractor before the compliance evaluation. Without involving the time and expense of the full team, it provides an opportunity to review progress toward implementing the criteria, to resolve misunderstandings, and to assess the contractor's readiness to demonstrate a fully integrated EVMS. It assists in the preparation for the Compliance Evaluation review by familiarizing key team members with EVMS fundamentals. Any discrepancies should be identified for correction. Team members should not design or recommend changes to systems to meet the criteria. Recommendations for system improvements should be forwarded to the review team for evaluation and discussion with the contractor. Where actual deficiencies have been identified, the contractor will be afforded an opportunity to correct them. Every attempt should be made to finalize the system description during the visits.

9.11 EVMS Demonstration

The compliance evaluation begins as soon as practical, following implementation of the EVMS. The contractor should have current written descriptions available that describe the EVMS. Applicable portions of the systems descriptions and operating procedures must also be available at the contractor's operating levels. The review team examines the contractor's working papers and documents to ascertain compliance and document its findings. The contractor will make documents used in the contractor's EVMS available to the team. The documentation should be current and accurate. The contractor demonstrates to the team how the EVMS is structured and used in actual operation.

9.12 Conduct of the Compliance Evaluation

The system characteristics are used by the team in conducting the compliance evaluation. Use of a checklist will ensure completion of an orderly, comprehensive and conclusive review.

The following are activities that will be performed to the extent necessary during the compliance evaluation:

- An overview briefing by the contractor to familiarize the review team with the proposed earned value management system, identifying any changes which have occurred since the most recent visit.
- A review, on a sample basis, of the documentation which establishes and records changes to the baseline plan for the contract. This will include work authorizations, schedules, budgets, resource plans, and change records (including management reserve and undistributed budget records). The purpose is to verify that the contractor has established and is maintaining a valid, comprehensive integrated baseline plan for the contract.
- A review, on a sample basis, of the reporting of cost and schedule performance against the baseline plan, along with appropriate analyses of problems and projection of future costs. Also, a tracing of the summarization of cost/schedule performance data from the lowest level of formal reporting (normally the control account level) to the external performance measurement report. The purpose of this activity is to verify the adequacy of the control aspects of the systems and accuracy of the resulting management information.
- Interviews with a selected sample of control account managers, functional and other work teams, and task managers to verify that the contractor's EVMS is fully implemented and being used in managing the contract.
- An exit briefing covering the team's findings. During this briefing, any open system discrepancies should be discussed along with the contractor's corrective action plan that establishes responsibility and a time-frame for corrective action.

Notes:

1. *The sample reviewed should be sufficient to verify the compliance and implementation of the EVMS. While it may not be necessary to review 100% of all documentation and contractor personnel, too small a sample may not provide sufficient visibility into possible system problems. Samples should be selected to focus on the areas of greatest risk. If significant problems are found, the sample size, and, if necessary, the duration of the review, should be extended. The assessment will be closed when the contractor has made all necessary corrections to the satisfaction of the review director.*
2. *Contractor self-evaluations are expected to follow processes similar to those of paragraphs 9.11 and 9.12.*

9.13 Acceptance

At the conclusion of the compliance evaluation review, the review director prepares a report within 30 working days after completion and approval of all significant corrective actions. The report is provided to the PD for acceptance of system compliance. On contractor self-evaluation, it is the responsibility of the review director to coordinate recognition of the EVMS with the PD and cognizant CO.

9.14 Third Party Certification

Provision is made for possible future third party certification of a contractor EVMS. Such third party certification would involve approval of an EVMS to a standard recognized by DOE as equivalent to the EVMS Criteria by an independent organization accredited by the standard owning authority recognized by DOE.

10.0 POST ACCEPTANCE REVIEWS FOR CAUSE

10.1 Policy

After the initial acceptance of a contractor's EVMS, no further system evaluation reviews are conducted unless there is a serious need determined by the project. The decision to conduct a post-acceptance review may occur when conditions warrant; e.g., solving a major system application problem identified by the PD or surveillance monitor on a specific contract. To the extent possible, problems should be resolved as part of the normal surveillance process (see Figure 3) rather than by invoking additional reviews.

The key element in the decision process is the impact of the event on previously approved processes. Input from the contractor and surveillance organizations should be considered in determining the need for and scope of the review.

Regardless of cause, the scope and conduct of the review is limited to focusing on the system processes affected. The review approach and team composition will be determined consistent with the philosophy described in paragraph 9.4, Review Process Ownership.

10.2 Objectives

The primary objectives of the review are to: identify actions required to reaffirm system acceptability; ensure the accuracy and acceptability of performance data generated on Government contracts; and respond to contractor requests for assistance in assessing new or changing processes.

When it is determined that a post-acceptance review is required, the scope of the review is jointly established by the review director, surveillance activity, the CO, the IPT and the contractor. The review director will notify the PD as to what degree of review is required.

10.3 Relationship to the Integrated Baseline Review

In the event that a baseline has not been conducted on the affected contract, every effort should be made to combine the baseline with this review. However, completion of the baseline review should not be delayed to accommodate scheduling of the reviews.

10.4 Conduct of the Review

The review is scheduled based on written PD notification. The team composition and the duration of the review should be the minimum necessary to accomplish the task. The review is led by a review director assigned by the PD, and usually includes participation by the IPT and the cognizant CO. Contractor personnel should participate in the review. Those portions of the EVMS designated for review are identified at the start of the review. Additionally, analysis of any previous review findings and surveillance reports should be performed to identify areas of special interest.

10.5 Review Procedures

The review routine is similar to that of a compliance evaluation review. The use of the EVMS Evaluation Guide is appropriate for reviews where compliance evaluation of specific areas is required. The review is not intended to be pursued to the extent that it would result in a full re-evaluation of the contractor's EVMS.

10.6 Report and Acceptance

At the conclusion of the review, the review director prepares a formal report within 30 working days after completion and approval of all significant corrective actions. The report is provided to the PD for acceptance of system compliance.

11.0 DEFICIENCIES IN THE PREVIOUSLY ACCEPTED SYSTEM

In those instances where surveillance activities, PD analysis of performance data, or where a review team determines that the contractor's accepted management system does not meet criteria requirements, the contractor, the PD, and the CO should be promptly notified. The information provided must detail the specific area of deviation. The procuring activity and the PD should be notified of major deficiencies and advice should be obtained from all parties.

If the contractor disagrees that there is a problem and does not propose an acceptable change to the system, the contractor should be allowed to appeal.

12.0 CONTRACT CLOSEOUT

Contract closeout is similar to administrative closeout in that it involves both product verification and administrative closeout. The contract terms and conditions may prescribe

specific procedures for contract closeout. Early termination of a contract and termination for the convenience of the Government are special cases of contract closeout.

12.1 Inputs to Contract Closeout

Contract Documentation. Contract documentation includes, but is not limited to, the contract itself along with supporting schedules, requested and approved contract changes, seller-developed technical documentation, seller performance reports, financial documents such as invoices and payment records, and the results of contract-related inspections.

12.2 Tools and Techniques For Contract Closeout

Procurement Audits. A procurement audit is a structured review of the procurement process from procurement planning through contract administration. The objective of a procurement audit is to identify successes, failures and lessons learned.

- *Acceptance Walkdown or Inspection.* The procurement documents should specify the process for turnover and acceptance of the equipment or service.

The project team and customer representatives should be involved in walkdowns and acceptance of equipment from contractors. After completion and turnover, the subcontractor is relieved from further responsibility, except in three circumstances:

- *Latent Defects.* A defect existed at the time of acceptance but was not discoverable through reasonable inspection.
- *Fraud.* The subcontractor's intent was to deceive the project.
- *Warranties.* Continue for a specified time from the date the mechanical completion certificate is completed.

These items should be managed to ensure DOE's interests are protected.

12.3 Outputs From Contract Closeout

- *Contract File.* A complete set of indexed records should be prepared for inclusion with the permanent project records.
- *Formal Acceptance and Closure.* The person or organization responsible for contract administration should provide the seller with formal written notice that the contract has been completed. Requirements for formal acceptance and closure are usually defined in the contract.

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